

Key Learning of this Unit: Weather

Earth's weather is caused by the interaction of heat energy, air pressure, winds, and moisture in the atmosphere.

Unit Essential Question:

How do the four atmospheric factors interact to cause Earth's weather?

Instructional Tools:

text books, Smartboard, weather station, anemometers, sling psychrometer, thermometers, hydrometer, worksheets

Concept:

Heat Energy

Lesson EQ:

How does the sun affect the heating of the Earth and its atmosphere?

Lesson EQ:

How is heat transferred on Earth?

Lesson EQ:

How is the Earth's atmosphere affected by the "greenhouse effect?"

Lesson EQ:

How does the tilt of the Earth affect the heating of the Earth?

Heat energy, convection, conduction, radiation, ultravi

Concept:

Air Pressure

Lesson EQ:

How do temperature, elevation, and water vapor affect Earth's air pressure?

Lesson EQ:

How is air pressure measured?

Lesson EQ:

How do high and low air pressure systems affect our weather?

Air pressure, front, barometer (mercury and aneroid)

Concept:

Wind

Lesson EQ:

How do the Earth's winds form?

Lesson EQ:

What are *local winds* and how do they affect Earth's weather?

Lesson EQ:

What are *global winds* and how do they affect Earth's weather?

Lesson EQ:

How is wind speed and direction measured?

Winds (local, global, and monsoon) jet stream, sea and land breezes, doldrums, horse latitudes, trade/easterly/westerly winds, weather vane, anemometer

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Concept:

Moisture

Lesson EQ:

How does the process of evaporation and condensation affect Earth's moisture?

Lesson EQ:

What is relative humidity and how is it measured?

Lesson EQ:

How do the three basic types of clouds form and what kind of weather are they associated with?

Lesson EQ:

How do the different types of precipitation form and how do they affect our weather?

Relative humidity, cumulus/cirrus/stratus clouds, psychrometer, lake effect snow